



FISH AND WILDLIFE SERVICE PUBLICATIONS

THESE PROCESSED PUBLICATIONS ARE AVAILABLE FREE FROM THE DIVISION OF INFORMATION, U. S. FISH AND WILDLIFE SERVICE, WASHINGTON 25, D. C. TYPES OF PUBLICATIONS ARE DESIGNATED AS FOLLOWS:

- CFS - CURRENT FISHERY STATISTICS OF THE UNITED STATES AND ALASKA.
 FL - FISHERY LEAFLETS.
 SSR. - FISH.-SPECIAL SCIENTIFIC REPORTS--FISHERIES (LIMITED DISTRIBUTION).
 SL - STATISTICAL SECTION LISTS OF DEALERS IN AND PRODUCERS OF FISHERY PRODUCTS AND BYPRODUCTS.
 SEP. - SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES REVIEW.

Number	Title
CFS-1990	- Ohio Landings, March 1959, 2 pp.
CFS-1994	- Fish Meal and Oil, 1958 Annual Summary, 4 pp.
CFS-2000	- New York Landings, 1958 Annual Summary, 8 pp.
CFS-2001	- Florida Landings, 1958 Annual Summary, 10 pp.
CFS-2035	- California Landings, December 1958, 4 pp.
CFS-2036	- North Carolina Landings, March 1959, 3 pp.
CFS-2037	- Georgia Landings, March 1959, 2 pp.
CFS-2038	- Texas Landings, February 1959, 3 pp.
CFS-2042	- Rhode Island Landings, 1958 Annual Summary, 7 pp.
CFS-2045	- Maine Landings, March 1959, 3 pp.
CFS-2046	- Shrimp Landings, December 1958, 6 pp.
CFS-2047	- South Carolina Landings, March 1959, 2 pp.
CFS-2049	- Frozen Fish Report, April 1959, 8 pp.
CFS-2057	- Fish Meal and Oil, March 1959, 2 pp.
CFS-2058	- Fish Sticks and Portions, January-March 1959, 3 pp.
FL-476g	- Canned Fish Retail Prices, April 1959, 27 pp.
FL-480	- The Bait Shrimp Industry of the Gulf of Mexico, by Anthony Inglis and Edward Chin, 15 pp., illus., revision of FL-337, April 1959. Live shrimp is the preferred bait for sea trout, redfish, flounders, and most game fishes of the bays and inshore waters of the Gulf of Mexico. The use of shrimp for this purpose has given rise to a large bait industry in some areas. This study describes the kinds of shrimp in the bait fishery and the general life history of the white shrimp. In discussing the bait shrimp industry of Galveston area, Texas, and Florida, the fishing gear and methods of operation, transporting and holding methods, and trade practices are covered. This report also includes suggestions

for holding live bait shrimp, scientific names of species mentioned in the text and publications on the biology of shrimp and the bait shrimp industry.

FL-483 - Instructions for Typing Manuscripts to be Printed at the Government Printing Office (With Exceptions for Manuscripts to be Processed), 7 pp., March 1959.

FL-485 - Japanese Fisheries Based in Overseas Areas, 30 pp., illus., May 1959. Describes the expansion of the Japanese high-seas fisheries since the end of the Occupation in 1952. Sections are included on development and types of overseas fisheries, Government control of overseas operation, and overseas operations by countries. Japanese overseas enterprises are now in operation or planned in more than 35 countries, in which about 200 fishing vessels are based. About 140 of these are tuna vessels, mainly long-liners. Tuna processing plants are in some stage of development in 15 countries. Other plants include sardine canneries, shrimp and crab canneries and freezing plants, fish meal plants, and freezers for locally-consumed fish.

FL-486 - Recommended Treatment for Fish Parasite Diseases, by Glenn L. Hoffman, 4 pp., April 1959.

Conservation Notes--Fishing for Food, Circular 55, 6 pp., illus., processed, March 1959. This pamphlet describes some fishing terms; the need for conservation of the seas' fish resources; and the dangers of predators, obstructions, water fluctuations, storms, human activity, domestic and industrial pollution, and careless use of pesticides. It also describes the work of the Bureau of Commercial Fisheries and other fact-finding organizations; the work of fishery biologists in studying the life history of various species; the problems of fish habitats; plankton; tagging; color marking; underwater television and SCUBA divers; chemical aids; electrical aids; spawning; sounds made by fish; sea mammals; the American catch; and vessels and gear.

SSR-Fish. No. 261 - Plastic Standpipe for Sampling Streambed Environment of Salmon Spawn, by Harold A. Gangmark and Richard G. Bakkala, 24 pp., illus., November 1958.

SSR-Fish. No. 281 - Water Soluble Vitamin Requirements of Silver Salmon, by John A. Coates and John E. Halver, 12 pp., illus., November 1958.

SSR-Fish. No. 288 - Intermediary Metabolism of Fishes and Other Aquatic Animals, by M. Gumbmann, W. Duane Brown, and A. L. Tappel, 55 pp., illus., December 1958.

SSR-Fish. No. 296 - Etiology of Sockeye Salmon "Virus" Disease, by Raymond W. Guenther, S. W. Watson, and R. R. Rucker, with Addendum by A. J. Ross and R. R. Rucker, 14 pp., illus., February 1959.

Firms Canning 1958 (Revised):

SL-101 - Salmon.
SL-102 - Maine Sardines.
SL-104 - Mackerel.
SL-111 - Clam Products.
SL-112 - Shrimp.
SL-151 - Firms Manufacturing Fish Meal, Scrap, and Body Oils, 1958 (Revised).

Sep. No. 553 - Shrimp Exploration in Central Alaskan Waters by M/V John N. Cobb, July-August 1958.

Sep. No. 554 - Current Status of the Inter-American Development Bank.

Sep. No. 555 - Research in Service Laboratories (July 1959): Contains these articles--"Proximate Composition of Gulf of Mexico Industrial Fish Part 3 - Fall Studies (1958);" and "Technical Note No. 54 - Dicarbonyl Compounds as Components of Fish Odor."

THE FOLLOWING SERVICE PUBLICATIONS ARE AVAILABLE ONLY FROM THE SPECIFIC OFFICE MENTIONED.

California Fishery Products Monthly Summary, April 1959, 13 pp. (Market News Service, U. S. Fish and Wildlife Service, Post Office Bldg., San Pedro, Calif.) California cannery receipts of tuna and tunalike fish; pack of canned tuna, mackerel, and anchovies; market fish receipts at San Pedro, Santa Monica, and Eureka areas; California and Arizona imports; canned fish and frozen shrimp prices; ex-vessel prices for cannery fish; American Tuna Boat Association auction sales; for the month indicated.

(Chicago) Monthly Summary of Chicago's Fresh and Frozen Fishery Products Receipts and Wholesale Market Prices, April 1959, 13 pp. (Market News Service, U. S. Fish and Wildlife Service, 565 W. Washington St., Chicago 6, Ill.) Receipts at Chicago by species and by states and provinces for fresh- and salt-water fish and shellfish; and wholesale prices for fresh and frozen fishery products; for the month indicated.

Monthly Summary of Fishery Products Production in Selected Areas of Virginia, North Carolina, and Maryland, May 1959, 4 pp. (Market News Service, U. S. Fish and Wildlife Service, 18 So. King St., Hampton, Va.) Fishery landings and production for the Virginia areas of Hampton Roads, Lower Northern Neck, and Eastern Shore; the Maryland areas of Crisfield, Cambridge, and Ocean City; and the North Carolina areas of Atlantic, Beaufort, and Morehead City; together with cumulative and comparative data; for the month indicated.

New England Fisheries--Monthly Summary, April 1959, 21 pp. (Market News Service, U. S. Fish and Wildlife Service, 10 Commonwealth Pier, Boston 10, Mass.) Reviews the principal New England fishery ports, and presents food fish landings by ports and species; industrial fish landings and ex-vessel prices; imports; cold-storage stocks of fishery products in New England warehouses; fishery landings and ex-vessel prices for ports in Massachusetts (Boston, Gloucester, New Bedford, Provincetown, and Woods Hole), Maine (Portland and Rockland), Rhode Island (Point Judith), and Connecticut (Stonington); frozen fishery products prices to primary wholesalers at Boston, Gloucester, and New Bedford; and landings and ex-vessel prices for fares landed at the Boston Fish Pier and sold through the New England Fish Exchange; for the month indicated.

New York City's Wholesale Fishery Trade--Monthly Summary for January 1959, 21 pp. (Market News Service, 155 John St., New York 38, N. Y.) Includes summaries and analyses of receipts and prices on wholesale Fulton Fish Market, imports entered at New York City, primary wholesaler prices for frozen products, and marketing trends; for the month indicated.

(Seattle) Washington, Oregon, and Alaska Receipts and Landings of Fishery Products for Selected Areas and Fisheries, Monthly Summary, May 1959, 9 pp. (Market News Service, U. S. Fish and Wildlife Service, Pier 42 South, Seattle 4, Wash.) Includes landings and local receipts, with ex-vessel and wholesale prices in some instances, as reported by Seattle and Astoria, (Ore.) wholesale dealers; also Northwest Pacific halibut landings; and Washington shrimp landings; for the month indicated.

Fishery Regulation and the Position of Coastal Countries, by Kenzo Kawakami, Pacific Salmon Investigations, Translation Series No. 22, 22 pp., processed. (Translated from Suisan Kagaku, vol. 6, no. 3-4, December 1957, pp. 13-20.) U. S. Fish and Wildlife Service, Bureau of Commercial Fisheries, Pacific Salmon Investigations, Seattle, Wash., July 30, 1958.

Provisional Keys to the Fishes of Alaska, by Norman J. Wilimovsky, 120 pp., printed. Fisheries Research Laboratory, U. S. Fish and Wildlife Service, P. O. Box 2021, Juneau, Alaska, May 1958.

Studies on Fish Culture in the Aquarium of Closed-Circulating System, Its Fundamental Theory and Standard Plan, by Aritsune Saeki, 14 pp. processed, 6 pp. printed tables, English translation. (From Bulletin of the Japanese Society of Scientific Fisheries, vol. 23, no. 11, 1958, pp. 684-695.) U. S. Fish and Wildlife Service, Bureau of Commercial Fisheries, Box 3830, Honolulu, Hawaii.

Translated Data on the Japanese Tuna Fishery, by Wilvan G. Van Campen, 11 pp., illus., processed. (Statistical tables on the Japanese tuna fishing industry which appeared in the February 1956 issue of Katsuo to Maguro, organ of the Japan Tuna Boat Owners' Association.) Pacific Oceanic Fishery Investigations, U. S. Fish and

Wildlife Service, Box 3830, Honolulu, Hawaii, May 7, 1956.

Young Tunas Found in Stomach Contents, by Hiroshi Yabe, Shoji Ueyanagi, Shoji Kikawa, and Hisaya Watanabe, 30 pp., illus., processed. (Translated from Report of the Nankai Regional Fisheries Research Laboratory, no. 8, March 1958, pp. 31-48 and 3 pages of plates.) U. S. Bureau of Commercial Fisheries, Hawaii Area Office, Box 3830, Honolulu, Hawaii, 1958.

THE FOLLOWING SERVICE PUBLICATIONS ARE FOR SALE AND ARE AVAILABLE ONLY FROM THE SUPERINTENDENT OF DOCUMENTS, WASHINGTON 25, D. C.

Decline of the Yellowtail Flounder (LIMANDA FERRUGINEA) Off New England, by William F. Royce, Raymond J. Buller, and Ernest D. Premetz, Fishery Bulletin 146 (from Fishery Bulletin of the Fish and Wildlife Service, vol. 59), pp. 169-267, illus., printed, 55 cents, 1959. The yellowtail flounder fishery off New England, which had risen to a place of importance with the increased food demands during World War II, was studied intensively from 1942 to 1949 to determine if changes in the yellowtail population were related to fishing pressure and whether regulation of the fishery was necessary to conserve the species. Tagging and other evidence indicated the existence of 5 stocks, the most important of which to United States fishermen occurred off southern New England. The landings from this stock declined from 63 million pounds in 1942 to 10 million pounds in 1949, but the population did not exhibit the usual symptoms of heavy fishing; a declining average size, an increasing proportion of young fish, or an increasing growth rate. Estimates of mortality and recruitment indicated that the fishery was drawing gradually on a reserve which for unknown reasons was not replenished by young. There is no clear evidence that greater total production could have been achieved by protecting fish at any size, in an area, or at any time of the year.

Grayling of Grebe Lake, Yellowstone National Park, Wyoming, by Thomas E. Kruse, Fishery Bulletin 149 (from Fishery Bulletin of the Fish and Wildlife Service, vol. 59), pp. 307-351, illus., printed, 35 cents, 1959.

Laws and Regulations for Protection of the Commercial Fisheries of Alaska, 1959, Regulatory Announcement 60, 33 pp. with 3-p. addendum, printed, March 1959, 25 cents. This publication is divided into two sections. One section contains laws for the protection of the commercial fisheries of Alaska and related information, including the authority for regulation, rules regarding oyster culture, Bristol Bay residence requirements, regulation of salmon escapement, fishing-gear restrictions, exceptions to weekly closed seasons, etc. The second section contains all the regulations governing the commercial fisheries in Alaska. These 1959 regulations supersede the regulations published in Regulatory Announcement 56 which became effective March 30, 1958. They have been revised, and as a result they contain many changes as well as the usual seasonal changes for 1959. The addendum, a reprint from the Federal Register of

April 28, 1959, contains regulations for the restriction of salmon fishing in Bristol Bay.

Sexual Maturity and Spawning of Albacore in the Pacific Ocean, by Tamio Otsu and Richard N. Uchida, Fishery Bulletin 148 (from Fishery Bulletin of the Fish and Wildlife Service, vol. 59), pp. 287-305, illus., printed, 20 cents, 1959.

Some Uses of Statistical Analysis in Classifying Races of American Shad (ALOSA SAPIDISSIMA), by Donald R. Hill, Fishery Bulletin 147 (from Fishery Bulletin of the Fish and Wildlife Service, vol. 59), pp. 269-286, illus., printed, 20 cents, 1959.

MISCELLANEOUS PUBLICATIONS

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM. CORRESPONDENCE REGARDING PUBLICATIONS THAT FOLLOW SHOULD BE ADDRESSED TO THE RESPECTIVE ORGANIZATION OR PUBLISHER MENTIONED. DATA ON PRICES, IF READILY AVAILABLE, ARE SHOWN.

ANGOLA:

Estudos de Biologia Maritima (Marine Biological Studies), Anais, vol. XII, tomo II, 1957, 157 pp., illus., printed in Portuguese. Junta das Missoes Geograficas e de Investigacoes do Ultramar, Rua da Junqueira, 86, Lisbon, Portugal. Describes the work of the Marine Biological Mission from Portugal to Angola.

ANIMAL FEEDING:

"The Use of Amino Acid Values in Formulation of Feeds," by H. S. Wilgus, article, Feedstuffs, vol. 30, December 20, 1958, p. 26, printed. Feedstuffs, Miller Publishing Co., 118 S. 6th St., Minneapolis 2, Minn.

ANTIBIOTICS:

"Antibiotic Now OK for Fish," article, Food Engineering, vol. 31, no. 5, May 1959, p. 41, illus., printed. Food Engineering, McGraw-Hill Publishing Co., Inc., 330 W. 42nd St., New York 36, N. Y. For more than 3 years antibiotics have been used as a dip for fish fillets in Canada. The U. S. Food and Drug Administration recently approved a petition by a chemical company for use of chlortetracycline at 5 parts per million on fresh fish, shucked scallops, and unpeeled shrimp. The approved process involves use of a dip or ice containing a solution of the antibiotic by commercial fishermen on fresh-caught, whole, headed, and gutted fish.

AUSTRALIA:

The Barramundi LATES CALCARIFER (Bloch) in Queensland Waters, by D. J. Dunstan, Technical Paper No. 5, 22 pp., illus., printed. Division of Fisheries and Oceanography, Commonwealth Scientific and Industrial Research Organization, Melbourne, Australia, 1959.

Measurements of Light Penetration in the Tasman Sea, 1955-57, by H. R. Jitts, Technical Paper No. 6, 26 pp., illus., printed. Division of Fisheries and Oceanography, Commonwealth

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Scientific and Industrial Research Organization, Melbourne, Australia, 1959.

Statistical Bulletin: Fishing and Whaling, Australia, no. 4, 1957-58, 18 pp., illus., processed. Commonwealth Bureau of Census and Statistics, Canberra, Australia. This is the fourth of a series of annual bulletins dealing with the fishing and whaling industries in Australia. The statistics, covering quantity and value of catch and related data, pertain to the year 1957/58 for fisheries and the 1958 season for whaling, with comparative data for the previous 4 years. The bulletin is divided into two parts--the first dealing with fisheries and the second with whaling. The part on fisheries is subdivided into a section on edible fishery products--finfish, crustaceans, and molluscs; and another on pearl and trochus shells.

BROOK TROUT:

The Eastern Brook Trout; Its Life History, Ecology, and Management, by John Brasch, James McFadden, and Stanley Kmiotek, Publication 226, 10 pp., illus., printed. Wisconsin Conservation Dept., Madison, Wis., 1958.

BYPRODUCTS:

"Fish Meal and Oil. 4--The Rate of Oxidation of Fat in Pilchard Presscake," by G. M. Dreosti and G. H. Stander, article, Annual Report, Fishing Industry Research Institute, April-December 1956, vol. 10, pp. 18-20, printed. Fishing Industry Research Institute, Cape Town, Union of South Africa.

CALIFORNIA:

The Sea Bottom off Santa Barbara, California: Biomass and Community Structure, by J. Laurens Barnard and Olga Hartman, 16 pp., illus., printed. (Reprinted from Pacific Naturalist, vol. 1, no. 6, June 1, 1959.) Beaudette Foundation for Biological Research, Box 482, R. F. D. 1, Solvang, Calif.

Statistical Report of Fresh, Canned, Cured and Manufactured Fishery Products, 1958, Circular No. 33, 16 pp., illus., printed. Department of Fish and Game, Biostatistical Section, Marine Resources Operations, Sacramento, Calif., 1959.

CANADA:

Eleventh Annual Report of the Pacific Marine Fisheries Commission for the Year 1958, 29 pp., printed. Pacific Marine Fisheries Commission, 340 State Office Building, 1400 S. W. Fifth Ave., Portland, Ore. Reports briefly the specific activities of the Pacific Marine Fisheries Commission during 1958 and presents a review of long-term developments in the fields of research, regulation, and coordination. Describes recent international developments affecting jurisdiction over fisheries. Presents sections on otter-trawl, California albacore, Pacific Coast shrimp, and offshore troll salmon fisheries.

Fisheries Statistics of Canada, 1957 (Prince Edward Island), 30 pp., illus., printed in French

and English, 50 Canadian cents. Queen's Printer and Controller of Stationery, Ottawa, Canada, May 1959. Contains tables giving the quantity and value of fishery products landed in Prince Edward Island in 1939-1957, by species; quantity and value by species and fisheries districts; quantity and value of manufactured fishery products by species, 1956-57; capital equipment in the primary fisheries operations; and the number of fishermen engaged in the primary fisheries operations.

Results of Special Sport Fishing Surveys, 1957-1958 (Supplementary Report to the 1958 Annual Report to the 1958 Annual Report of Statistics on Salmon Sport Fishing in the Tidal Waters of British Columbia), 23 pp., illus., processed. Department of Fisheries, 1110 West Georgia St., Vancouver 5, B. C., Canada, May 15, 1959.

CHILE:

Cooperativas Pesqueras (Fishery Cooperatives), Boletín Nos. 1 and 2, January and February 1959, respectively, 4 pp. ea., illus., processed in Spanish. La Sección Cooperativas, Depto. Fomento de Pesca y Caza, Valparaíso, Chile. The first two issues of a new monthly bulletin presenting news on fishery cooperatives sponsored by the Chilean Department of Fish and Wildlife. Covers the activities and benefits of the fishery cooperatives of Chile.

CLAMS:

The Bay Clams of Oregon (Their Identification, Relative Abundance, and General Distribution), by Lowell D. Marriage, Educational Bulletin No. 2, 28 pp., illus., printed. Fish Commission of Oregon, Portland, Ore., 1958. Presents a description of the various species of Oregon's bay clams, a guide to the general abundance and distribution of the major species, and description of the various bays where the clams are produced. Statistical data are also included showing Oregon's commercial clam production during 1928-56.

COD:

"Chemical Indices of Decomposition in Cod," by Fred Hillig, L. R. Shelton, Jr., J. H. Loughrey, and Jerome Eisner, article, Journal of the Association of Official Agricultural Chemists, vol. 41, November 1958, pp. 763-776, printed. Association of Official Agricultural Chemists, Inc., Box 540, Benjamin Franklin Station, Washington 4, D. C.

COMMON MARKET:

"Le Marché Commun, Vu par les Américains" (The Common Market, the American Point of View), article, France Pêche, vol. 40, no. 29, May 1959, pp. 15-16, printed in French. France Pêche, 84, Rue Carnot, Lorient, France.

CONTAINERS:

"Containers for Transporting Fresh Fish in Ice," by R. J. Nachenius, article, Annual Report, Fishing Industry Research Institute, 1957, vol. 11, p. 14, printed. Fishing Industry Research Institute, Cape Town, Union of South Africa, 1958.

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CROAKER:

Migration of the Croaker, MICROPOGON UNDULATUS, by Dexter S. Haven, No. 82, 6 pp., illus., printed. (Reprinted from *Copeia*, no. 1, April 17, 1959, pp. 25-30.) Virginia Fisheries Laboratory, Gloucester Point, Va.

CUBA:

Catalogo de Peces Cubanos (Catalogue of Cuban Fish), by Pedro Pablo Duarte-Bello, Monografia 6, March 1959, 204 pp., printed in Spanish with common names in English, \$3.00. Universidad Catolica de Santo Tomas de Villanueva, Laboratorio de Biologia Marina, Apartado No. 6, Marianao, Cuba.

DELAWARE:

Marine Laboratories (Newark and Lewes, Delaware), Biennial Report, 1957-1958, no. 4, 16 pp., illus., printed. University of Delaware, Department of Biological Sciences, Newark, Del., 1959.

FISH MEAL:

"Determination of Fat in Fish Meal by Refractometry," by H. Treiber, article, Fette, Seifen, Anstrichmittel, vol. 60, 1958, pp. 488-490, printed. Deutsche Gesellschaft für Fettwissenschaft, Industrieverlag von Herhausen K. G., 24 Rodingsmarkt, Hamburg 11, Germany.

"Fish Meal. Investigation of Fat Content," by A. F. M. G. Luijpen, D. Hooghiemstra-Brasser, and A. C. Hindriks, article, Fette, Seifen, Anstrichmittel, vol. 60, 1958, p. 951, printed. Deutsche Gesellschaft für Fettwissenschaft, Industrieverlag von Herhausen K. G., 24 Rodingsmarkt, Hamburg 11, Germany.

FISH OILS:

"The Role of Free Fatty Acids on Antioxidant Effectiveness in Unsaturated Oils," by Harold S. Olcott, article, Journal of the American Oil Chemists' Society, vol. 35, November 1958, pp. 597-599, printed. American Oil Chemists Society, 35 E. Wacker Drive, Chicago 1, Ill.

FISH SOLUBLES:

"A Comparison of the Nutritive Value of Condensed Herring Solubles Prepared by Acid and Enzyme Treatments," by B. E. March, Jacob Biely, J. McBride, R. A. MacLeod, and D. R. Idler, article, Progress Reports of the Pacific Coast Stations, no. 111, August 1958, pp. 23-28, printed. Fisheries Research Board of Canada, Pacific Fisheries Experimental Station, 898 Richards St., Vancouver, B. C., Canada.

FISHERIES DEVELOPMENT:

Principles of Fisheries Development, by Casper Josephus Bottemann, 689 pp., illus., printed, \$12. North-Holland Publishing Co., P. O. Box 103, Amsterdam, Netherlands, 1959. The aim of this textbook (in five parts) is to trace the principles which determine the structure of fisheries and to establish, on this basis, the principles governing fisheries development; as well as to find how the industry might contribute more fully to the world's food supply. Part 1 deals with the basic facts concerning fish populations.

Part 2 covers the principles of fishing methods and units and use of resource. Part 3 on the main features of dynamic fisheries describes expansions in fisheries proper, role of complementary industries, and structural problems of fisheries. Part 4 dealing with the general principles of development discusses pattern of structure, development and leverage, climates for development, and development strategy. Part 5 on problems of development in fisheries discusses conditioning factors in development, basic leverage patterns, development of fishing units, methods and instrument of leverage, and strategy of leverage. The author points out that the book is confined to sea fisheries because those produce the most intricate problems. All phases of fisheries are covered, from the resource in the sea to the final product and its marketing. The book is a general philosophy on fisheries. A scholarly work of compelling interest for all those wishing to increase their knowledge of fishery science.

FOOD AND AGRICULTURE ORGANIZATION:

The Food and Agriculture Organization has published reports describing that Agency's activities under the Expanded Technical Assistance Program for developing the fisheries of many countries. These reports have not been published on a sales basis, but have been processed only for limited distribution to governments, libraries, and universities. Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy.

Informe al Gobierno de Mexico sobre el Consumo y la Distribucion del Pescado en los Mercados (Report to the Government of Mexico on the Consumption and Distribution of Fish in the Markets), by John Fridthjof, FAO Report No. 694, 27 pp., processed in Spanish, May 1958. Reports on fish production in Mexico, dry fish and its cheap disposal, problems of distribution, necessity for special instruction to the consumer, national and local inquiries, fish work unit, application of the activities of the fish work unit, the idea of a puppet show, other activities of the adult education program, the program on a local level in the Federal District, States of Morelos, Michoacan, and Veracruz, and an evaluation of reported activities.

Report to the Government of Turkey on Fishery Biology, by Hermann Einarsson, FAO Report No. 829, 80 pp., illus., processed, May 1958. Discusses the background and research facilities; technical work accomplished--field work at sea and work in the laboratory; and conclusions regarding research services.

Informe al Gobierno de Mexico sobre Consumo y Distribucion del Pescado en los Mercados (Report to the Government of Mexico on Consumption and Distribution of Fish in the Markets), by John Fridthjof, FAO Report No. 843, 23 pp., illus., processed in Spanish, July 1958. Reports on a follow-up study to supplement FAO Report No. 694.

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Rapport au Gouvernement de la Tunisie sur la Situation de la Flotte Chalutière Tunisienne (Report to the Government of Tunisia on the Situation of the Tunisian Trawler Fleet), by Peter Gurtner, FAO Report No. 864, 45 pp., illus., processed in French, July 1958. Describes the survey and evaluation by a Swiss naval architect of the Tunisian trawler fleet. Discusses the vessels, motors, and gear of the fleet, method of fishing applied, personnel, the point of view of independent owners, facilities of the shipyards, and recommendations for long- and short-term programs.

Report to the Government of Saudi Arabia on Exploration and Commercial Fishing Operations in the Red Sea, by Gonzalo G. Ferrer, FAO Report No. 877, 30 pp., illus., processed, May 1958. Reports on the work done in 1954-56 along the Arabian Coast of the Red Sea. Discusses initial and later surveys of the fishing grounds, commercial fishing operations, the gear, and fishing methods used.

Report to the Government of Sudan on the Red Sea Fisheries (based on the work of Erling Oswald), FAO Report No. 934, 29 pp., illus., processed, August 1958. Describes the work accomplished in operations out of Port Sudan with a motor boat fitted for multiple trolling and the demonstrations to local fishermen of greatly increased earnings with modern fishing gear. Subsequently, a Red Sea Fishermen's Cooperative Society was formed.

Annotated Bibliography on Fishing Gear and Methods, Indo-Pacific Fisheries Council Special Publications No. 4, 85 pp., processed. Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy, 1958. Out of 3,000 bibliographic references on fishing gear, 672 titles have been selected and are presented with brief annotations giving an indication of the information contained in each publication or article. Also contains a list of the full names of the periodicals in which the references were published and the addresses of their publishers, including only those which are not already listed in the Handbook for World Fisheries Abstracts. The material appears on one side only of each page; the paper being of a heavy, stiff quality, making the bibliographies suitable for cutting out and inclusion in a card index.

Report of the F. A. O. Training Centre in Fishery Co-Operatives and Administration, vol. I, 46 pp., printed; vol. II (Fishermen's Co-Operatives in the Indo-Pacific Region), by Edward Szczepanik, 128 pp., printed. Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy, 1958. (For sale by International Documents Service, Columbia University Press, 2960 Broadway, New York 27, N. Y.) Describes in two volumes the work accomplished at the FAO Indo-Pacific Training Centre in Fishery Co-Operatives and Administration, held in Sydney, Australia, December 16, 1957, to January 25, 1958. The first volume presents a factual account of the organ-

ization, conduct, and training program of the Centre. Its primary purpose is to inform Governments concerning the work accomplished at the Centre. It also provides guidance as to the value of this type of regional project and the practical measures required in the preparation and execution of such a program of training. Some observations are offered on the advantages, from the standpoint of the participants, of certain training activities, especially practical work and discussions and on the importance of achieving group cohesion while allowing full opportunity for the study of the problems of individual participants.

The second volume consists of a review of fishermen's cooperatives in the Indo-Pacific region, based on reports and other documents prepared and assembled in connection with the Centre, and includes an analytical study of the role of cooperatives in relation to middlemen problems in the region generally. The main feature presented in this study is the remarkable postwar growth of the cooperative movement in the Indo-Pacific fisheries. This is the first comprehensive account of the cooperative movement in the Indo-Pacific fisheries as a whole and therefore presents the first opportunity for regionwide comparisons which can be most valuable in assessing the results and planning the future of the movement in particular countries. It also enables the reader to appreciate the past development, current problems, and future prospects of this important feature of the Indo-Pacific fisheries.

FRANCE:

Federation Nationale des Syndicats Français de Conserveurs des Produits de la Mer (National Federation of French Syndicates of Canners of Marine Products), 8 pp., illus., printed in French. Federation Nationale des Syndicats Français de Conserveurs des Produits de la Mer, Paris, France, 1959. Presents statistical tables on French production of canned fishery products during 1958.

"Le Pays et la Pêche Face au Marche Commun" (The Country and the Fishing Industry in the Face of the Common Market), by Jules Molard, article, France Pêche, vol. 4, no. 28, April 1959, pp. 15-17, printed in French. France Pêche, 84, Rue Carnot, Lorient, France. Discusses the objectives to be achieved in the fishing industry so that full advantage may be taken of the latest financial adjustments. Cites examples of equipment schemes which are not merely projects but which, on the contrary, have proven their efficiency when applied to operational units of diverse types.

"La Pêche à la Lumière en Méditerranée" (Fishing With Lights in the Mediterranean), by Robert Lenier, article, France Pêche, vol. 4, no. 28, April 1959, pp. 44-47, illus., printed in French. France Pêche, 84, Rue Carnot, Lorient, France.

FUR SEALS:

"Storied Seal-Hunt," article, Trade News, vol. 11, no. 10, April 1959, pp. 3-5, illus., processed.

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

Trade News, Department of Fisheries, Ottawa, Canada. Describes the adventures of the 8 sealing ships from Newfoundland and Nova Scotia operating in the Gulf of St. Lawrence and off the east coast of Labrador. This colorful and lucrative trade has been operating in this area for nearly a century. Early reports give accounts of good catches. The Canadian ships are aided by seal spotting aircraft and by the assistance of a representative of the Arctic Unit, Fisheries Research Board of Canada.

GEAR:

"Fishing with the South African Pursued Lampara," by C. G. Du Plessis, article, World Fishing, vol. 7, March 1958, pp. 57-58, printed. John Trundell (Publishers), Ltd., St. Richard's House, Eversholt St., London, N. W. 1, England.

A Method of Determining the Depth of Midwater Trawl Nets, by William Edward Barraclough, Circular no. 48, 5 pp., illus., printed. Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada, 1958.

"On the Relation Between the Length of Ground Rope of a Danish Seine and the Variation of its Gape," by Otohiko Suzuki, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 23, no. 9, 1958, pp. 514-517, printed. Japanese Society of Scientific Fisheries, c/o Tokyo University of Fisheries, Shiba-kaigandori 6-chome, Tokyo, Japan.

GENERAL:

"Studies on Fishes of the Family Ophidiidae. III--A New Species of Lepophidium from Barbados," by C. Richard Robins, article, Breviora, no. 104, April 13, 1959, 7 pp., illus., printed. Museum of Comparative Zoology, Cambridge, Mass. (Also Contribution No. 221 from The Marine Laboratory, University of Miami, Miami, Fla.)

GIZZARD SHAD:

Age and Growth of the Gizzard Shad (DOROSOMA LACEPEDI) (Sesueur), in Lake Newnan, Fla., by Frederick H. Berry, 14 pp., illus., printed. (Reprinted from Proceedings of the Eleventh Annual Conference, Southeastern Association of Game and Fish Commissioners, pp. 318-331.) Southeastern Association of Game and Fish Commissioners, P. O. Box 360, Columbia, S. C., 1958.

HERRING:

De Haringcampagne 1957-58 (The Herring Fishery, 1957-58), by Charles Gilis, no. 1, 1958, 31 pp., illus., printed in Flemish and French. Zeewetenschappelijk Instituut, Romestraat, 30, Oostende, Belgium.

The Herring from the Fuglsetfjord--a Supplement to "The Østerbø Herring", by Thorolv Rasmussen, 8 pp., illus., printed. (Report on Norwegian Fishery and Marine Investigations, vol. XII, no. 2, 1958.) A. S. John Griegs Boktrykkeri, Bergen, Norway.

"Herring Migrations in the Passamaquoddy Region," by R. A. McKenzie and B. E. Skud, article,

Journal of the Fisheries Research Board of Canada, vol. 15, no. 6, 1958, pp. 1329-1343, printed. Journal of the Fisheries Research Board of Canada, Queen's Printer and Controller of Stationery, Ottawa, Canada.

"Untersuchungen über die Deutsche 'Ölheringsfischerei' in der Nordsee im Jahre 1956" (Assessment of the German Oil Herring Fishery in the North Sea in 1956), by Heinrich Kuhl and Klaus Tiews, article, Berichte der Deutsche Wissenschaftlichen Kommission für Meeresforschung, Neue Folge, band XV, heft 1, December 1957, pp. 58-69, illus., printed in German with English summary. E. Schweizerbart'sche Verlagsbuchhandlung (Nagele u. Obermiller), Stuttgart, Germany.

HYDROGRAPHY:

Hydrography of the North-Western Approaches to the British Isles, by D. S. Tulloch and J. B. Tait, Scottish Home Department Marine Research No. 1, 1959, 32 pp., illus., printed, 10s. (about US\$1.40). Her Majesty's Stationery Office, 13a Castle St., Edinburgh 2, Scotland.

Hydrography of Scottish Coastal Waters, by R. E. Craig, Scottish Home Department Marine Research No. 2, 1959, 30 pp., illus., printed, 10s. (about US\$1.40). Her Majesty's Stationery Office, 13a Castle St., Edinburgh 2, Scotland.

INTERNATIONAL CONFERENCES:

Participation of the United States Government in International Conferences, July 1, 1957-June 30, 1958, Department of State Publication 6772, 286 pp., printed, 70 cents. Office of International Conferences, Department of State, Washington 25, D. C., May 1959. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) A reference guide to the official participation of the U. S. Government in multilateral international conferences and meetings of international organizations during the period July 1, 1957-June 30, 1958. For many of the conferences detailed data are presented on the composition of the U. S. delegation, principal officers, participation by other countries and organizations, and brief statements of the actions taken. Describes among others, the following conferences: United Nations Conference on the Law of the Sea (February 24-April 27, 1958), Geneva; Inter-American Tropical Tuna Commission, Tenth Annual Meeting (February 11-12, 1958), Panama; International North Pacific Fisheries Commission, Fourth Meeting (November 4-8, 1957), Vancouver, Committee on Biology and Research (October 28-November 4, 1957), Vancouver; International Commission for the Northwest Atlantic Fisheries, Eighth Annual Meeting (June 9-14, 1958), Halifax; International Fisheries Convention of 1946, Permanent Commission: Sixth Meeting (October 22-25, 1957), London; International Whaling Commission, Tenth Meeting (June 23-28, 1958), The Hague; North Pacific Fur Seal Commission, First Meeting (January 13-17, 1958), Washington, D. C.; General Agreement on Tariffs and Trade (GATT), Contracting Parties: Twelfth Session (October 17-Novem-

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

ber 30, 1957). Geneva; International Council for the Exploration of the Sea, Forty-Fifth Meeting (September 30-October 8, 1957), Bergen, Norway.

IRELAND:

Foyle Fisheries Commission, Seventh Annual Report (for the year ended September 30, 1958), Pr. 4958, 35 pp., illus., printed, 2s. (about 28 U. S. cents); Sixth Annual Report (for the year ended September 30, 1957), Pr. 4552, 35 pp., illus., printed, 2s. (about 28 U. S. cents); Fifth Annual Report (for the year ended September 30, 1956), Pr. 4057, 29 pp., illus., printed, 2s. (about 28 U. S. cents); and Fourth Annual Report (for the year ended September 30, 1955), Pr. 3467, 33 pp., illus., printed, 1s. (about 14 U. S. cents). The Foyle Fisheries Commission, The Courthouse, Lifford, Ireland. (For sale at the Government Publications Sale Office, G. P. O. Arcade, Dublin, Ireland.)

ISRAEL:

Bamidgeh (Bulletin of Fish Culture in Israel), vol. 10, no. 4, December 1958, 46 pp., illus., printed in English and Hebrew. Joint Agricultural Extension Centre, Division of Fisheries, Ministry of Agriculture, Tel Aviv, Israel. Contains the following articles: "The Fish Culture Research Station--Dor," by A. Yashouv; "Acclimatization of New Species in the Fishponds of the Station," by A. Yashouv; "Winter Culture of Carps at the Fish Culture Research Station--Dor," by A. Yashouv, and "The Excreta of Carp as a Growth Limiting Factor," by A. Yashouv.

MACKEREL:

"Changes of Fat in Frozen Mackerel During Storage," by O. M. Mel'nikova and N. M. Khalina, article, Izvestiia Tikhookeanskovo Nauchno-Issledovatel'skovo Instituta Rybnovo Khoziaistva i Okeanografii, vol. 42, 1954, pp. 299-302, printed. Izvestiia Tikhookeanskovo Nauchno-Issledovatel'skovo Instituta Rybnovo Khoziaistva i Okeanografii, Vladivostok, U. S. S. R.

MENHADEN:

Length, Weight, and Age Composition of the Menhaden Catch in Virginia Waters, by J. L. McHugh, R. T. Oglesby, and A. L. Pacheco, No. 84, 18 pp., illus., printed. (Reprinted from Limnology and Oceanography, vol. 4, no. 2, April 1959, pp. 145-162.) Virginia Fisheries Laboratory, Gloucester Point, Va.

OYSTERS:

Cooling Rates of Fresh Oysters, Central Laboratory Report, 11 pp., illus., processed, limited distribution. U. S. Department of Health, Education, and Welfare, Public Health Service, Bureau of State Services, Division of Sanitary Engineering Services, Milk and Food Branch, Shellfish Section, Washington 25, D. C.

"La Pêche et l'Ostréiculture dans le Quartier de Bordeaux en 1958" (The Fishery and Oyster Culture in the Bordeaux Area in 1958), by M. Lucas, article, France Pêche, vol. 40, no. 29, May 1959, pp. 37-38, printed in French. France Pêche, 84, Rue Carnot, Lorient, France.

PARASITES:

Concerning the Specificity of Fish Parasites, by S. S. Shulman, Fisheries Research Board of Canada, Translation Series, No. 177, 17 pp., processed. (Translated from Zoologicheskii Zhurnal, vol. 33, no. 1, 1954, pp. 14-25.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada, 1958.

PILCHARD:

The Pilchard of South Africa and of South West Africa (SARDINOPS OCELLATA)--The Variations of Temperature in the Surface Layer of the Sea Near Walvis Bay during 1954-57, with an Analysis of Some Wind Data from Pelican Point, by G. H. Stander, Investigational Report No. 35, 40 pp., illus., printed. South African Department of Commerce and Industries, Division of Fisheries, Cape Town, Union of South Africa, 1958.

PORTUGAL:

Gremio dos Armadores Navios da Pesca do Bacalhau, Relatório e Contas do Exercício de 1958 e Orçamento para 1959 (Cod Fishing Vessel Owners' Guild, Statement of Operations for 1958 and Budget for 1959), 38 pp., illus., printed in Portuguese. A Comissao Revisora de Contas, Lisbon, Portugal, February 1959.

PRECOOKED FOODS:

A Study of Frozen Precooked Foods: Their Sanitary Quality and Microbiological Standards for Control, by A. E. Abrahamson, Leon Buchbinder, John Guenkel, and Milton Heller, 10 pp., illus., printed. (Reprinted from Association of Food & Drug Officials of the United States, vol. 23, no. 2, April 1959, pp. 63-72.) Department of Health, City of New York, Bureau of Food and Bureau of Laboratories, New York, N. Y. In the City of New York a microbiological study was made of 195 samples of frozen precooked foods of nationally known brands, obtained at the retail level. At this level about 76 percent were found to meet the Department of Health criteria of less than 100,000 colonies per gram and no Staphylococcus aureus. This is not a local problem but one of national scope. The standards used in the recent New York City study are recommended for adoption as a starting point for the improvement of the sanitary quality of frozen precooked foods of the types encompassed by the study. Unless Federal microbiological standards for frozen precooked foods are soon established there is a great likelihood that various and varying levels of standards will be adopted by local and state agencies which may be of some help to the consumer but may not make it easier for the processor.

PRESERVATION:

"Use of Ascorbic Acid for Fish Preservation (Analytical Determination)," by Maria Carusi Di Fabio, article, Progresso Veterinario, vol. 11, 1956, pp. 876-880, printed in Italian. Associazione Nazionale Veterinari Italiani, Turin, Italy.

QUALITY:

"A Review of the Value of Volatile Reducing Substances for the Chemical Assessment of the

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

Freshness of Fish and Fish Products," by Lionel Farber and Peter A. Lerke, article, *Food Technology*, vol. 12, December 1958, pp. 677-680, printed. *Food Technology*, The Garrard Press, 510 No. Hickory, Champaign, Ill.

"Studies on Protein Denaturation in Frozen Fish" (Parts I, II, and III), by J. I. M. Ironsides and R. M. Love, article, *Journal of the Science of Food and Agriculture*, vol. 9, September 1958, pp. 597-617, printed. Society of Chemical Industry, 14 Belgrave Square, London, S. W. 1, England.

RECIPES:

Fish for Hospital Catering, 30 pp., illus., printed. White Fish Authority, Lincoln's Inn Chambers, 2-3 Cursitor St., London, E. C. 4, England, 1959. An eye-catching booklet, illustrated with color photos, which contains sections on the therapeutic value of fish, a table of food values of white fish, choosing fish for normal and special diets, buying fish, preparation and storage of fish, sanitation, cooking, serving and garnishing, keeping fish hot, fish recipes for normal diets, and fish for special diets.

Fish for Industrial Catering, 46 pp., illus., printed. White Fish Authority, Lincoln's Inn Chambers, 2-3 Cursitor St., London E. C. 4, England, 1959. This useful booklet discusses fish and the problems of service, how to choose fish, sanitation, basic cooking methods for the canteen, and some useful tips when cooking fish. It also presents recipes for large quantity cookery for the canteen and cafeteria, the snack bar, the directors' dining room; preparation of shellfish; and sauces for fish.

Fish for School Meals, 24 pp., illus., printed. The White Fish Authority, Lincoln's Inn Chambers, 2-3 Cursitor St., London E. C. 4, England, 1959. Making fish popular with children is worthwhile since it can bring welcome variety to the school menu. That is the aim of this booklet which discusses choosing and buying fish, controlling delivery, quality and freshness, storage, preparation, sanitation, choice of fish, cooking fish, frying, other cooking methods, serving fish to children, and useful hints. It also contains recipes for the preparation of fish and sauces, and tips for transporting hot prepared fish dishes.

Four Recipe Leaflets, 4 pp. each, illus., printed. White Fish Authority, Lincoln's Inn Chambers, 2-3 Cursitor St., London, E. C. 4, England. Contain recipes for the preparation of fish dishes. Titles of the leaflets are: "Have a Proper Meal with Fish;" "Sensible Slimming with Fish;" "Fish for Invalids;" and "Party Dishes with Fish."

SALMON:

Causes of the Fluctuations in Abundance of Sockeye Salmon in Kamchatka, by F. V. Krogus, Fisheries Research Board of Canada, Translation Series, No. 92, 5 pp., illus., processed. (Translated from *Trudy Problemnikh i Tematicheskikh Soveshchaniĭ Zin*, no. 6, 1956, pp.

144-149.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada, 1957.

Concerning the Causes of a Peculiarity of the Pink Salmon of the Sea of Japan, by I. B. Birman, Fisheries Research Board of Canada, Translation Series, No. 142, 6 pp., illus., processed. (Translated from *Zoologicheskii Zhurnal*, vol. 35, no. 11, 1956, pp. 1681-1684.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada, 1958.

Fisheries (Contributions of Western States, Alaska, and British Columbia to Salmon Fisheries of the North American Pacific Ocean, including Puget Sound, Straits of Juan de Fuca and Columbia River), volume 2, 80 pp., illus., printed. Washington Department of Fisheries, Seattle, Wash., 1959. Contains chapters on: the need for cooperative management and preservation of historic fishing rights; historical review of fisheries management; problems involved in management of Pacific fisheries; Canadian proposal for a 12-mile zone of territorial waters; interception of migrating fish; the problem of the Bonilla-Tatoosh Line; extension of treaty waters to include Johnstone Strait and Puget Sound; chinook, silver, sockeye, pink, and chum salmon; objectives of fish farming; fish protective investments in Washington, Oregon, Idaho, and California; calculated minimum contributions of hatchery releases to the catch of salmon on the Pacific Coast and costs Assessable to Hatchery Operations; and conclusions and recommendations. Also presents graphs and charts depicting salmon migrations and landings, as well as tables showing investments in hatcheries and production of salmon from liberations of hatchery-reared fish, among others.

Results of a Study of the Biology of Sockeye Salmon, the Conditions of the Stocks and the Fluctuations in Numbers in Kamchatka Waters, by F. V. Krogus and E. M. Krokhin, Fisheries Research Board of Canada, Translation Series, No. 176, 21 pp., illus., processed. (Translated from *Voprosy Ikhtiologii*, no. 7, 1956, pp. 3-20.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada, 1958.

Statistics on Salmon Sport Fishing in the Tidal Waters of British Columbia, 1958, 25 pp., illus., processed. Department of Fisheries of Canada, Pacific Area, 1110 West Georgia St., Vancouver 5, B. C., Canada, May 15, 1959.

"Variations in Composition of Southeastern Alaska Pink Salmon," by Claude E. Thurston, article, *Food Research*, vol. 23, November-December 1958, pp. 619-625, printed. Department of Food Technology, University of California, Davis, Calif.

SARDINES:

Behavior and Reactions of the Pacific Sardine, SARDINOPS CAERULEA (Girard), Under the Influence of White and Colored Lights and Darkness, by Anatole S. Loukashkin and Norman Grant, 50 pp., illus., printed. (Reprinted from

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Proceedings of the California Academy of Sciences, vol. 29, no. 15, May 29, 1959, pp. 509-548.) California Academy of Sciences, San Francisco, Calif. This investigation was conducted in order to study experimentally the effects of various types of illumination on the Pacific sardine from the point of view of the behavior of the school as a unit and the ability of the fish to discriminate different colors of light. Out of the three colored lights--green, blue, and red--of both different and uniform light intensities, only the red light elicited what are called negative reactions. The experiments revealed three important factors in sardine reactions to the light and darkness: (1) the sardine is a phototactic animal; (2) the sardine is incapable of reacting differently to different intensities of the white light ranging from 0.01 to 38.9 foot-candles; (3) and the sardine is capable of discriminating qualitatively the colors of light of the three primary colors.

SCOTLAND:

Ninth Annual Report of the Supervisory Committee for Brown Trout Research, 1956-1957, Scottish Home Department Freshwater and Salmon Fisheries Research, No. 21, 14 pp., illus., printed, 4s. 6d. (about 63 U. S. cents). Her Majesty's Stationery Office, 13a Castle St., Edinburgh 2, Scotland.

Scottish Fisheries Bulletin, No. 11, May 1959, 20 pp., illus., printed. Fisheries Division, Scottish Home Department, Edinburgh, Scotland. Contains, among others, the following articles: "Scottish Herring Fishery Forecast for 1959," by B. B. Parrish; "A New Fisheries Convention," by C. E. Lucas; "The Importance of Plankton in Maintaining Fish Stocks," by J. H. Fraser; "Deadly Plant Found in the Sea," by J. H. Fraser; "The Cod's 'Poor Relations'," by J. Mason; "Fluctuations in the North Sea Haddock Stocks--II," by R. Jones; and "The Greenland Shark," by Bennet B. Rae.

Tenth Annual Report of the Supervisory Committee for Brown Trout Research 1957-1958, Scottish Home Department Freshwater and Salmon Fisheries Research No. 23, 15 pp., illus., printed, 4s. 6d. (about 63 U. S. cents). Her Majesty's Stationery Office, 13a Castle St., Edinburgh 2, Scotland.

SPAIN:

Investigacion Pesquera, vol. XII, October 1958, 134 pp., illus., printed in Spanish with English summaries. Instituto de Investigaciones Pesqueras, Universidad de Barcelona, Barcelona, Spain. Contains, among others, the following articles: "Fluctuaciones en la Pesqueria de Sardina de Castellon" (Fluctuations in the Sardine Fishery of Castellon), by M. G. Larraneta, P. Suau, and J. Lopez; "Capturas por Unidad de Esfuerzo en la Pesqueria de Sardina de Castellon" (Landings Per Unit of Effort in the Sardine Fishery of Castellon), by M. G. Larraneta, J. Lopez, and P. Suau; and "Estudio Biometrico Comparado de los Nodulos Insulinicos del Atun y la Albacora" (Comparative Biometric Study of the Insulin Nodules of Tuna and Albacore), by E. Balcells R. and Jose Planas Mestres.

Investigacion Pesquera, vol. XIII, November 1958, 133 pp., illus., printed in Spanish with English summaries. Instituto de Investigaciones Pesqueras, Universidad de Barcelona, Spain. Contains, among others, the following articles: "Estudio Comparativo del Crecimiento de las Sardinas, *Sardina pilchardus* Walbaum, de Barbate (Costa Sudatlantica Espanola) y Larache (Costa Atlantica de Marruecos)" (Comparative Study of Growth of the Sardine, *Sardina pilchardus* Walbaum, of Barbate (South Atlantic Spanish Coast) and Larache (Atlantic Moroccan Coast), by Julio Rodriguez-Roda; "Los Escombriformes Espanoles como Fuente de Insulina" (Spanish Trash Fish as a Source of Insulin), by Jose Planas Mestres and E. Balcells R.; and "Sobre el Poder de Pesca, Vulnerabilidad y Agregacion en la Pesqueria de Sardinas de Castellon" (On Fishing Power, Vulnerability and Concentrations in the Sardine Fishery of Castellon), by M. G. Larraneta.

SPONGES:

Natural History of the Marine Sponges of Southern New England, by Willard D. Hartman, Bulletin 12, 179 pp., illus., printed. Peabody Museum of Natural History, Yale University, New Haven, Conn., 1958.

ST. LAWRENCE SEAWAY:

"Impact of St. Lawrence Seaway on U. S. Foreign Trade and Shipping," by Ernst A. Van Es, article, Foreign Commerce Weekly, vol. 61, no. 21, May 25, 1959, pp. 24-26, 32, printed, single copy 15 cents. Bureau of Foreign Commerce, U. S. Department of Commerce, Washington 25, D. C. (For sale by the Superintendent of Documents, Washington 25, D. C.) With the inauguration of the St. Lawrence Seaway System on April 25, 1959, a new and important trade route has been opened to the merchant fleets of the world, reaching 2,400 miles inland from the Atlantic Ocean to the midcontinental industrial centers of the United States. The basic contribution of the Seaway to the development of foreign trade is the fact that it is now possible for most oceangoing vessels with a cargo-carrying capacity of 8,500 to 10,000 tons (compared with a maximum carrying capacity of less than 3,000 tons prior to deepening the channel to 27 feet) to load and discharge directly at all of the Great Lakes ports which provide adequate berthing facilities. The increased vessel capacity will be an important factor in the expansion of foreign trade, as it will increase the operating efficiency of shipping on the Seaway with a consequent reduction in ship operating costs.

TRAWLING:

Trawlfishing in the South-Eastern Caribbean (a report prepared for the Government of Trinidad and Tobago and the Caribbean Commission), 153 pp., illus., printed. Central Secretariat, Caribbean Commission, Port-of-Spain, Trinidad, 1955.

TRAWLS:

On the Choice of a Rational Shape for Trawl-Boards, by I. R. Matrosov, 9 pp., processed. (Translated from Rybnove Khozyaistvo, no. 1, January 1958, pp. 36-42.) Ministry of Agriculture, Fisheries and Food, Fisheries Laboratory, Lowestoft, England, 1958.

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TUNA:

The Albacore Tuna Fishery of Oregon, by Irving W. Jones, Educational Bulletin No. 3, 11 pp., illus., processed. Fish Commission of Oregon, Portland, Ore., 1958. Presents descriptions of the history of the albacore tuna fishery off the Oregon coast, fishing methods, canning methods, and biology and research. Surprisingly, the Commercial albacore tuna fishery was not discovered until 1936, when 40,000 pounds were landed. "Before 1936," according to the author, "albacore had occasionally been taken by trollers fishing for salmon, but the fishermen in some cases threw them away as being some sort of unknown and probably worthless scrapfish. The credit for discovery of the fishery can be given in part to pilchard fishermen fishing in waters off the Oregon and Washington coast." Oregon landings continued to increase until 1944, when a peak catch of 22.5 million pounds was landed. In the succeeding 10 years, landings declined, but later began to show an increase.

"Éléments Nouveaux sur la Migration des Thons" (New Ideas on the Migration of Tunas), by Robert Lenier, article, *France Pêche*, vol. 40, no. 29, May 1959, pp. 26-34, illus., printed in French. *France Pêche*, 84, Rue Carnot, Lorient, France.

UNITED KINGDOM:

Fish from the Sea to the Table, 12 pp., illus., printed. White Fish Authority, Lincoln's Inn Chambers, 2-3 Cursitor St., London E. C. 4, England, 1959. A color-illustrated booklet principally for school children but so attractively presented as to be of general interest. Describes the different kinds of fish; how they are caught, landed, unloaded at port, and marketed; and how they are processed and quick-frozen. Also contains a map which shows where most of the edible fish are caught and how far the trawlers must go to seek their catches.

Fisheries of Scotland Report for 1958, 80 pp., illus., printed, 4s. 6d. (about 63 U. S. cents). Her Majesty's Stationery Office, 13a Castle St., Edinburgh 2, Scotland, April 1959. This report discusses the changes which took place in the Scottish fishing fleet during 1958 as well as details of the catch. It also includes in the appendices reports on fisheries research and har-

bors. New fishing vessels of various types are making their appearance in the Scottish fleet each year and the modernization of their vessels by trawler owners continued last year at an even pace. A number of tables are included in the report which deal with quantities and values of fish landed, number of vessels and fishermen engaged in the fisheries, and grants and loans for the purchase of boats and gear. The Marine Laboratory at Aberdeen continued its investigations of herring, demersal, and shellfish fisheries. Research on salmon and brown trout has progressed at the Freshwater Fisheries Laboratory at Pitlochry. The program has included experiments in the protection of salmon nets from attacks by seals.

List of Recommended Names for the Sale of Fresh or Frozen Fish by Retail, 6 pp., printed. White Fish Authority, Lincoln's Inn Chambers, 2-3 Cursitor St., London E. C. 4, England, January 1959. The White Fish Authority, in consultation with the Local Authority Associations and the fishing industry, has prepared a Code of Practice indicating prescribed names under which fish should be sold in the retail markets. This information is presented in the form of a chart giving the names by which fish should be sold retail, other names by which fish are at present known, and scientific names of species.

U. S. S. R.:

"New Fishing Areas and New Fishes for the Industry in Far-Eastern Seas," by Theodor S. Rass, article, *Voprosi Ikhtiologiiim*, vol. 4, 1955, pp. 71-81, processed. (Institute of Oceanology of the Academy of Sciences of the U. S. S. R.) A translation has been made by the Department of the Secretary of State of Canada, Foreign Language Division, Ottawa, Canada, 1957.

WHALING:

International Whaling Statistics, no. XXXIX, 72 pp., illus., printed, kr. 2.00 (about 28 U. S. cents). The Committee for Whaling Statistics, Oslo, Norway, 1958.

International Whaling Statistics, no. XXXX, 53 pp., illus., printed, kr. 2.00 (about 28 U. S. cents). The Committee for Whaling Statistics, Oslo, Norway, 1958.

